Lab Assignment
& Solution

Cybersecurity Professional Program

Introduction to Python
for Security

Network Communication

PY-06-LS2
Client Socket

Note: Solutions for the instructor are shown inside the green box.

Project Objective

Implement code from the socket library to create a client and connect it to the server.

Lab Mission

Create a socket for a client in order to connect to the server.

Lab Duration

10-15 minutes

Requirements

- Basic knowledge of Python.

Resources

- Environment & Tools
    - Windows, macOS, Linux
        - PyCharm
        - Python 3
        - Netcat
    - Kali Linux

Textbook References

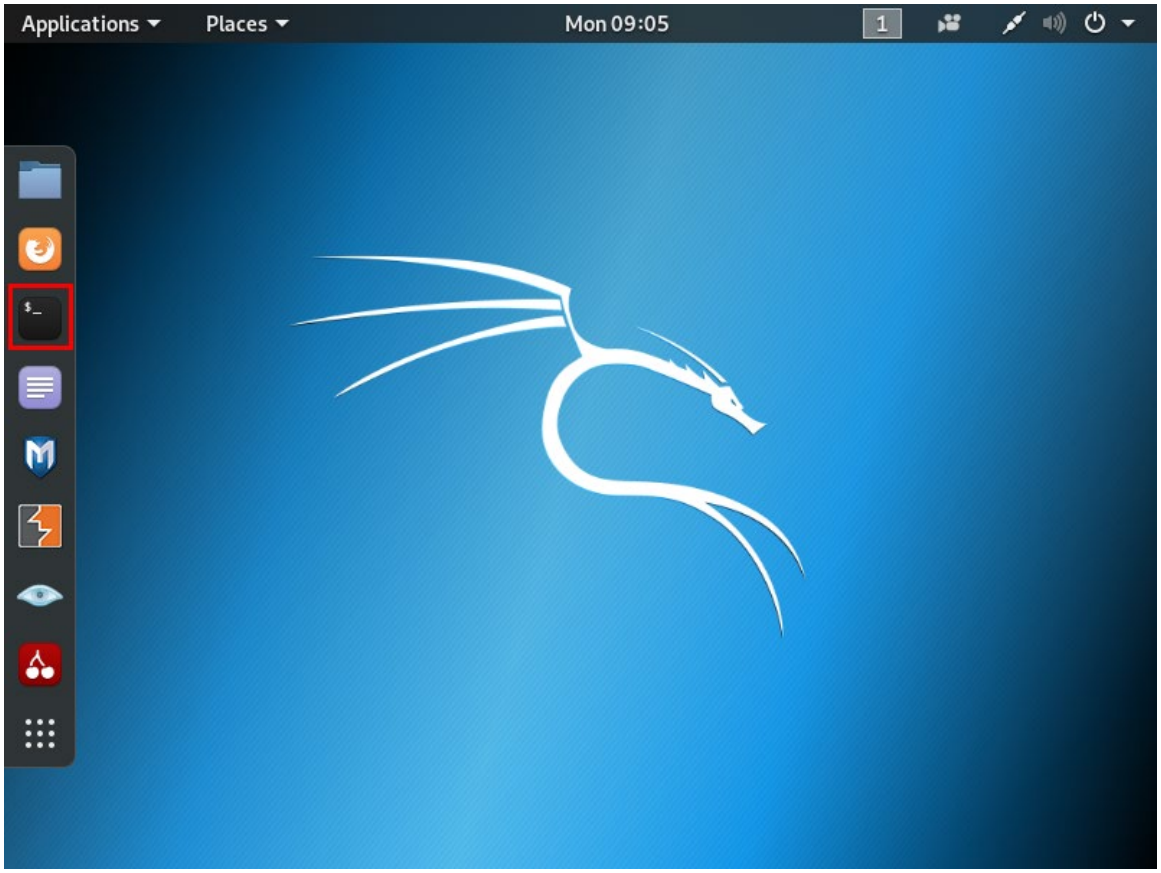
- Chapter 6: Network Communication
    - Section 2: Creating a Client Socket

Lab Task 1: Client Socket

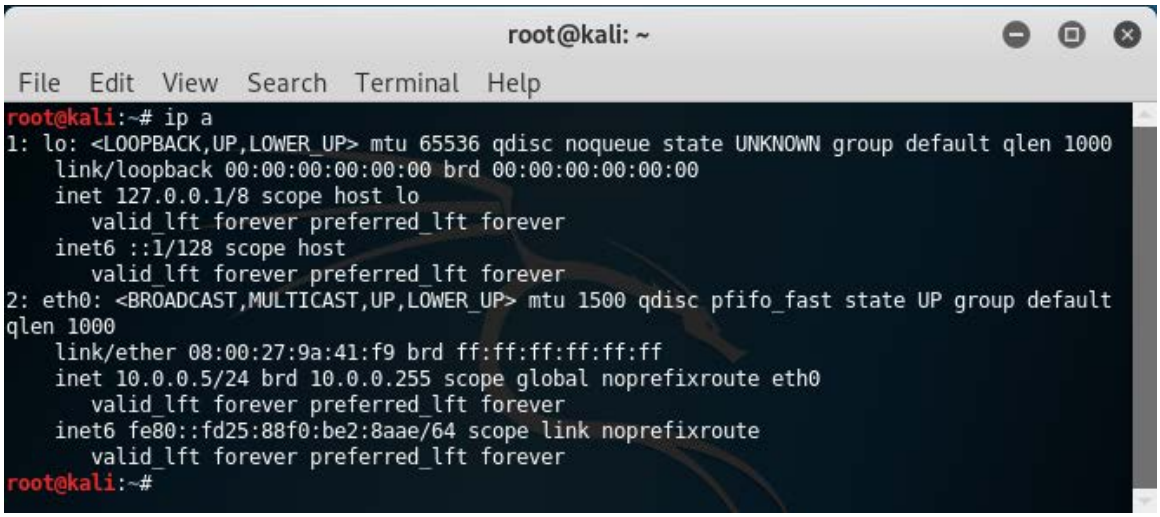
In this task, you will create a socket for the client's connection to a Netcat listener.

1 Start the Kali Linux machine in Live mode.

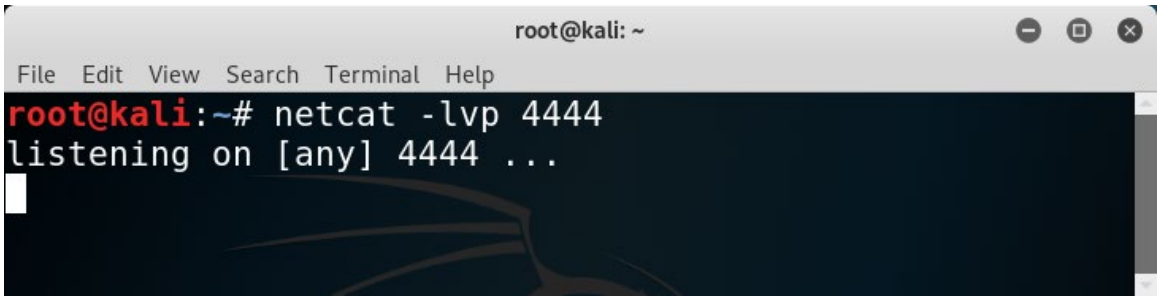
2 Open the terminal by clicking its icon in the options bar on the left side of the window.



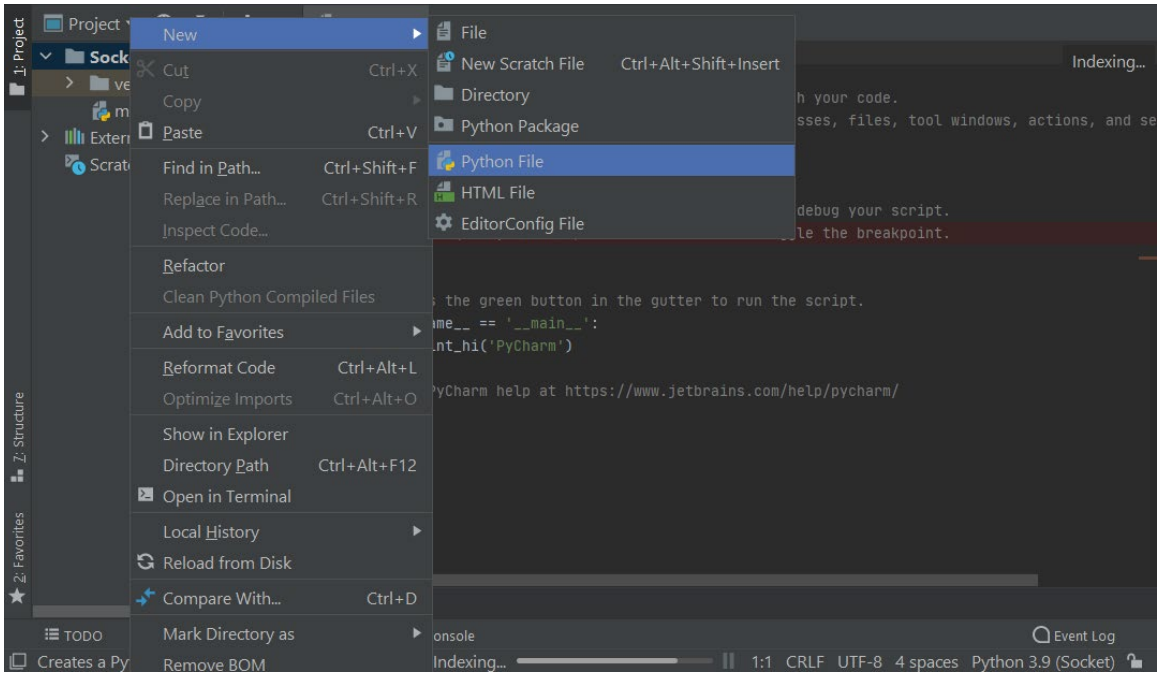
3 Run the command **ip a** to identify the IP address of the machine for future use.

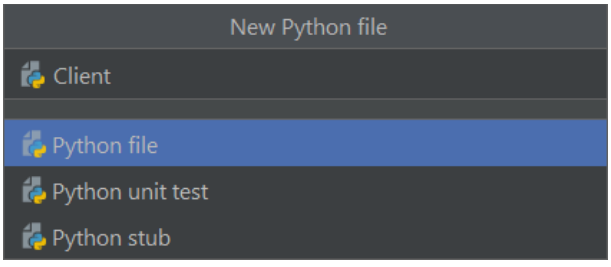


4 Use the command **netcat -lvp 4444** to start a listener.



5 Create a new Python file by right-clicking the project's folder, and selecting **New → Python File**. Name the file **Client**.





6 Import the **socket** module to the file.

```
import socket
```

7 Import the **time** module to the file.

```
import socket
import time
```

8 Create a socket variable.

```
import socket
import time

my_sock = socket.socket()
```

9 Connect the socket to the listener in the Kali machine.

```
import socket
import time

my_sock = socket.socket()

my_sock.connect(("10.0.2.4", 4444))
```

10 Add a pause of 5 seconds after the connection using the time module.

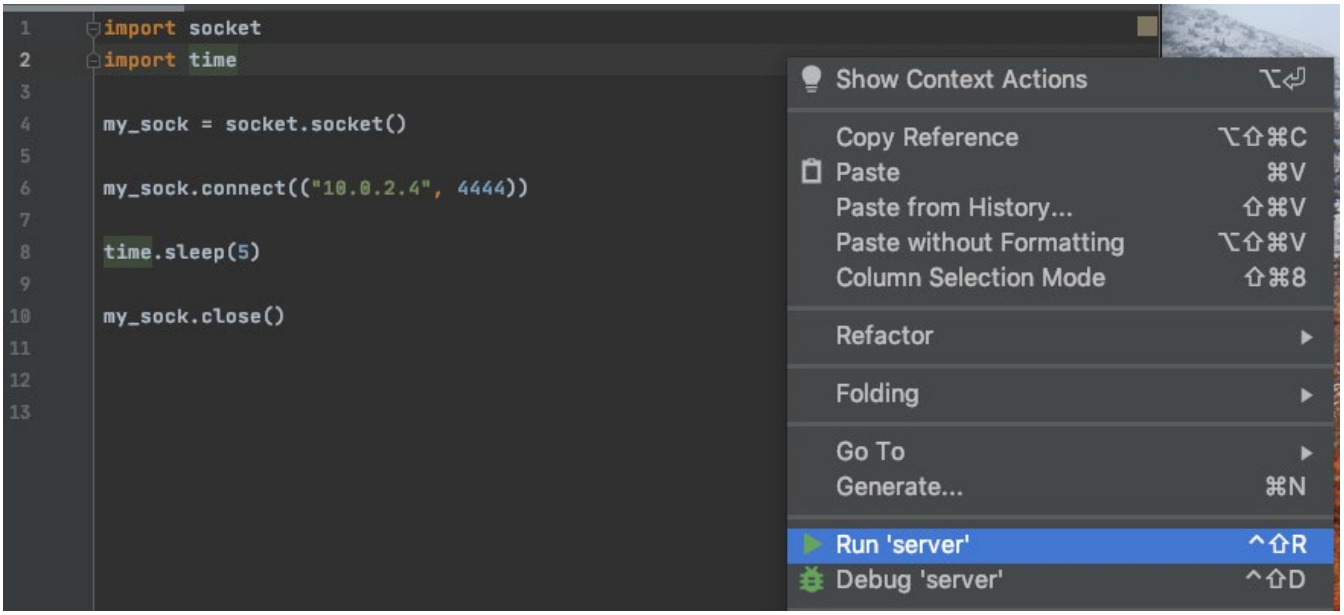
```
import socket
import time

my_sock = socket.socket()

my_sock.connect(("10.0.2.4", 4444))

time.sleep(5)
```

11 Close the connection at the end of the client's script.

```
import socket
import time

my_sock = socket.socket()
```

```
my_sock.connect((“10.0.2.4”, 4444))

time.sleep(5)

my_sock.close()
```

12 Execute the code by right-clicking the file, and then clicking **Run**.



13 Verify in the Kali machine that the connection was established.